

**IN THE UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

<b>UNITED STATES OF AMERICA</b>	)	
	)	
<b>Plaintiff,</b>	)	
<b>vs.</b>	)	<b>No. 11 CR 458</b>
	)	<b>Judge John W. Darrah</b>
<b>CHUNLAI YANG</b>	)	
	)	
<b>Defendant.</b>	)	
	)	

**DEFENDANT'S SENTENCING MEMORANDUM AND  
POSITION PAPER ON SENTENCING**

Defendant Chunlai Yang, by and through his undersigned attorneys, pursuant to Local Criminal Rule 32.1(g), respectfully offers the following position paper on sentencing:

**INTRODUCTION**

On September 19, 2012, Yang pleaded guilty to Counts One and Two of the superseding indictment charging him with two counts of theft of trade secrets in violation of 18 U.S.C. § 1832(a)(2) and (a)(4), in that he downloaded approximately 10,000 files containing CME computer source code, knowing that the offense would injure the Chicago Mercantile Exchange ("CME"). While there are no basic disputes between the parties in relation to the facts of this case, the parties are in dispute as to the value of the downloaded source code. The following sentencing memorandum will discuss Yang's position as to the value of the downloaded source code, identify additional,

non-crucial objections to the Presentence Investigation Report (“PSR”), and highlight considerations crucial to the fashioning of a reasonable sentence pursuant to 18 U.S.C. § 3553(a).

## **I. DISPUTED LOSS CALCULATION**

In determining the applicable sentencing guideline enhancements under § 2B1.1, this Court must determine the greater of actual or intended loss. U.S.S.G. § 2B1.1, comment, Note 3(A). When no actual loss exists – as is the case here – this Court must calculate the pecuniary harm that was intended to result from the offense. U.S.S.G. § 2B1.1, comment, Note 3(A)(ii). In estimating loss, in the case of proprietary information (e.g., trade secrets), this Court can look at the cost of developing that information or the reduction in the value of that information that resulted from the offense. U.S.S.G. § 2B1.1, comment Note 3(C)(ii). But as the government notes, and Yang agrees, because of the length of time, man-hours, and resources used to develop the code, the calculated loss amount would yield a “very rough” figure based on speculation. Gov. Sent. Memo, pg. 12.

Instead, the government urges this Court to calculate the loss by using fair market value, submitting an even more speculative and inaccurate loss calculation severely over-stating the seriousness of the offense. Through its expert, Sam Coady, the government came to a fundamentally flawed loss figure, resulting in an amount not objectively reflecting the actual fair market value of the CME source code. As will be further discussed in this

memorandum, because the fair market value of the source code cannot be reasonably determined, this Court must look at Yang's expected gain, U.S.S.G. § 2B1.1, comment, Note 3(B), as a basis for loss which would be a fair representation of the impact of Yang's transgressions.

**a. Coady Assumes a 10-year Time Frame for Calculating Value**

The government improperly calculates fair market value. Fair market value is the price a willing buyer will pay for an item from a willing seller<sup>1</sup> - not the projected revenue over 10 years, which the government uses in its projections of fair market value of the CME source code. The loss calculation recommended by the government is purportedly based on various draft business plans prepared by Yang<sup>2</sup>. In his proposal, Yang discusses possible, speculative revenue from his software project, which the government in turn projects over the course of 10 years. Such revenue is not necessarily reflective of what a buyer would be willing to pay for the code.

It is the government's position – and the figure used to calculate the purported intended loss – that a 10-year span should be used in assessing the value of such software. The government's position is not supported by the facts. The CME, by its own accord, concedes that the useful life of such

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<sup>1</sup> <http://www.businessdictionary.com/definition/fair-market-value-FMV.html>

<sup>2</sup> In their sentencing memo, the government explains their original approach to calculate loss was based on a joint venture with an overseas partner. Upon Yang's request for documentation supporting the calculation, the government abandoned this approach citing the potential exposure of confidential and proprietary information. *See* Govt. Sent. Memo, pp. 12-13. While the government argues that its original calculation is a reasonable estimate of the value of the source code, Yang disagrees.

software is three years before significant upgrades would be required<sup>3</sup>. This begs the question as to why Coady would choose a 10-year projection, instead of the more realistic three-year lifespan.

The use of a 10-year projection could be chalked-up to the government's attempt at yielding substantially higher final values used in assessing the loss calculation. For example, should Coady have opted to use a 5-year projection – all other assumptions taken as true – the projected value substantially drops from the government's purported value of \$23 million to a mere \$5.2 million; \$2.35 million for a 3-year projection. The following table illustrates the disparities in loss calculation when using a 3-, 5-, and 10-year projection:

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Annual Growth Rate		27.80%	27.80%	27.80%	27.80%
Daily Revenue	30,000	38,340	48,999	62,620	80,028
Trading Days	246	246	246	246	246
Annual Revenue	7,380,000	9,431,640	12,053,636	15,404,547	19,687,011
Commission	50%	50%	50%	50%	50%
Annual Commission (RMB)	3,690,000	4,715,820	6,026,818	7,702,273	9,843,505
RMB/USD rate	6.13				
Projection frames	<b>For 3 years</b>	<b>For 5 years</b>			
Total Commissions (USD)	<b>\$2,354,427</b>	<b>\$5,216,707</b>			

Additionally, Coady takes his calculation one step further from the reasonable and “conservative” approach heralded by the government in their

<sup>3</sup> [http://files.shareholder.com/downloads/CME/3159679537x0x746843/226C8EF4-7971-4E53-B9E8-BA4887660478/CME\\_AR13\\_FullAnnualReport.pdf](http://files.shareholder.com/downloads/CME/3159679537x0x746843/226C8EF4-7971-4E53-B9E8-BA4887660478/CME_AR13_FullAnnualReport.pdf)

sentencing memorandum when he calculated the constant average growth rates (CAGR) of the four major Chinese futures exchanges (Zhangjiagang is a small city spot market). In his analysis, Coady used a 27.8% growth rate, which he identified as the average five-year growth rate of the Dalian Commodity Exchange from 2007-2012. Using the same Futures Industry Association Data, if Coady had chosen the years 2008 -2013, the growth rate for the Dalian Exchange would have been significantly lower at 17.5%; in 2009-2014, only 13.1%. Compare:

<b>Years</b>	<b>2007</b>	<b>2012</b>	<b>5-year CAGR</b>
Dalian Exchange	185,614,913	633,042,976	<b>27.8%</b>
<b>Years</b>	<b>2008</b>	<b>2013</b>	<b>5-year CAGR</b>
Dalian Exchange	313,217,957	700,500,777	<b>17.5%</b>
<b>Years</b>	<b>2009</b>	<b>2014</b>	<b>5-year CAGR</b>
Dalian Exchange	416,782,261	769,637,041	<b>13.1%</b>

If Coady used the 17.5% percent growth rate (2008-2013) over 10 years, the projected revenue would have dipped to \$13.8 million; over five years to \$4.3 million; and over three years to \$2.1 million:

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Annual Growth Rate		<b>17.50%</b>	<b>17.50%</b>	<b>17.50%</b>	<b>17.50%</b>
Daily Revenue	30,000	35,250	41,419	48,667	57,184
Trading Days	246	246	246	246	246
Annual Revenue	7,380,000	8,671,500	10,189,013	11,972,090	14,067,205
Commission	50%	50%	50%	50%	50%
Annual Commission (RMB)	3,690,000	4,335,750	5,094,506	5,986,045	7,033,603
RMB/USD rate	6.13				
Projection frames	<b>For 3 years</b>	<b>For 5 years</b>			
Total Commissions (USD)	<b>\$2,140,335</b>	<b>\$4,264,258</b>			

	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
Annual Growth Rate	<b>17.50%</b>	<b>17.50%</b>	<b>17.50%</b>	<b>17.50%</b>	<b>17.50%</b>
Daily Revenue	67,191	78,949	92,765	108,999	128,074
Trading Days	246	246	246	246	246
Annual Revenue	16,528,966	19,421,535	22,820,304	26,813,857	31,506,282
Commission	50%	50%	50%	50%	50%
Annual Commission (RMB)	8,264,483	9,710,768	11,410,152	13,406,929	15,753,141
RMB/USD rate	6.13				
Projection frames	<b>For 10 years</b>				
Total Commissions (USD)	<b>\$13,814,906</b>				

An even more drastic decrease in projected revenue would result from using the 13.1% grown rate (2009-2014), yielding a 10-year projected revenue of \$11.1 million, 5-year projected revenue of \$3.9 million; and \$2.05 million over a three year period:

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Annual Growth Rate		13.10%	13.10%	13.10%	13.10%
Daily Revenue	30,000	33,930	38,375	43,402	49,088
Trading Days	246	246	246	246	246
Annual Revenue	7,380,000	8,346,780	9,440,208	10,676,875	12,075,546
Commission	50%	50%	50%	50%	50%
Annual Commission (RMB)	3,690,000	4,173,390	4,720,104	5,338,438	6,037,773
RMB/USD rate	6.13				
Projection frames	<b>For 3 years</b>	<b>For 5 years</b>			
Total Commissions (USD)	<b>\$2,052,772</b>	<b>\$3,908,598</b>			

	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
Annual Growth Rate	13.10%	13.10%	13.10%	13.10%	13.10%
Daily Revenue	55,518	62,791	71,017	80,320	90,842
Trading Days	246	246	246	246	246
Annual Revenue	13,657,443	15,446,568	17,470,068	19,758,647	22,347,030
Commission	50%	50%	50%	50%	50%
Annual Commission (RMB)	6,828,721	7,723,284	8,735,034	9,879,323	11,173,515
RMB/USD rate	6.13				
Projection frames	<b>For 10 years</b>				
Total Commissions (USD)	<b>\$11,141,857</b>				

The tables illustrate that the growth rates and time span selected by Coady for his analysis all yielded higher revenue projections than if he had selected subsequent years for his analysis. Considering Yang committed the instant offense in 2011, a more accurate projected revenue would be achieved by utilizing a growth rate from the years 2011-2016. While the defense is not in a position to forecast future growth rates for Chinese markets, it is

reasonable to presume – based on the constant decline in growth rates over the above-mentioned three year period – that the growth rates will continue to decline over the course of the next two years and ultimately yield even lower 3-, 5- and 10-year projected revenues. At the very least, the growth rate of the Zhangjiagang Exchange would fluctuate from year to year, changing with the market, making it impractical to assume future revenue as fair market value.

**b. Coady Assumes Yang's Proposal is 100% Factually Sound and Would Be Executed Flawlessly**

The government bases its loss calculation on what is clearly a draft proposal – containing no introduction, no ending – meant to convince his business partners, and eventually other investors, that his anticipated software project would be profitable for those involved. These claims, as evidenced through various drafts, were based on hopeful conjecture rather than fact, and were a sales strategy used to land prospective investors.

Yang's proposals contemplated that daily trading volume at the Zhangjiagang Exchange would double with the advent of his new trading software. Yet, a doubling of trading volume would be extremely difficult to attain, and certainly, the increased volume would not be realized on the first day of trading. However, in his calculation, Coady assumes such doubling would be immediately achieved and remain constant through his 10-year projection – an unrealistic assumption used to inflate the intended loss figures.



Coady's analysis works on the assumptions that the source code Yang downloaded would work "out-of-the-box" and that no developmental costs existed. In fact, in meetings with the government and the defendant, CME's Ryan Eavy explained that the CME did not test the downloaded code to see whether it worked – Yang did not have access to the code to allow him to do his own testing. Nevertheless, there is no showing that there would be compatibility in the functioning of the code. That is, one part of the source code would instruct another part to perform a function, but necessary information to perform that function would be nonexistent. Should such incompatibilities exist, there would be a need for new code and database files to repair the functions.

The amount of work needed to transform the downloaded code into a working, supportable system with newly engineered database files would no doubt be enormous and not within Yang's capabilities. While pin-pointing an exact amount of development and man-hours needed to accomplish such a feat is a tough task in and of itself, Ryan Eavy (Executive Director of Enterprise Architecture at CME), himself, concluded that such would be prohibitively expensive for the CME to accomplish – even with trained personnel familiar with the code, having immediate access to testing machines, and an already existing database and infrastructure to conduct tests – let alone Yang, lacking all of CME's resources. What's more, Chinese Exchange Regulations prohibited many of the functions contained in the

source code downloaded by Yang. Removing all prohibited functions would no doubt increase the work and experimentation needed to perfect the software, rendering it much simpler to create new software as opposed to adapting the downloaded CME code<sup>45</sup>.

**c. Coady Improperly Assumes Zhangjiagang is a Futures Exchange**

One of the keys to improving the trading volume of the Zhangjiagang Exchange, evidenced in Yang's draft proposal, is increasing its capacity from a simple spot market to a futures exchange market. Gov. Sent. Memo, Exhibit ("Ex."). 1, pgs. 5-7. Generally, trading on spot markets is limited by the actual quantity of an available commodity produced and customers willing to purchase, and might only reach, for example, 1000 transactions per day. In contrast, a futures market does not face the same limitations and can support millions of transactions per day.

Additionally, the Chinese Government applies strict regulations on new futures exchanges and only four currently exist in China. Gov. Sent. Memo, Ex. 1, pgs. 5-7. Yang's proposal notes the difficulty in obtaining approval from the Chinese government in establishing a futures exchange. *Id.* Specifically, Yang highlights the importance in realizing increased trading through his plan is obtaining the appropriate approval from the

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<sup>4</sup> This realization overcame Yang in April 2011 when he realized the impossibility of his endeavor and abandoned the project.

<sup>5</sup> Should he be called as a witness, Richard Moore, Yang's expert, will testify that the value of the downloaded source code is zero based on the uncertainty of whether it would take longer to adapt the CME code or create new code from scratch.

China Securities Regulatory Commission to build a futures exchange at Zhangjiagang. *Id.* at 7.

In calculating his 10-year revenue projection, Coady assumes Zhangjiagang would be immediately approved as a futures exchange and compares its growth rates with the four existing Chinese futures exchanges. Yet, revenue projected over a 10-year period for a liquid chemicals exchange is not a projection analogous to raw CME source code. The Zhangjiagang Exchange was, and remains, a spot exchange, in which goods are traded for real production demands – as opposed to speculation purposes as in a futures exchange – and all trading parties on the exchange are either sellers or buyers of liquid chemicals.

Under the Chinese system, the likelihood of approval being granted for Zhangjiagang to become a futures exchange is minute. Chinese government policy strictly limits the establishment of new futures exchanges. As such, only four futures exchanges exist, located in some of China's largest cities:

<b>Futures Exchanges in China</b>	<b>Founded Date</b>	<b>About the exchange location</b>
Zhengzhou Commodity Exchange (ZCE) <a href="http://english.czce.com.cn/enportal/index.htm">http://english.czce.com.cn/enportal/index.htm</a>	July 1990	Zhengzhou is the capital and largest city of Henan province. <a href="http://en.wikipedia.org/wiki/Zhengzhou">http://en.wikipedia.org/wiki/Zhengzhou</a>
Dalian Commodity Exchange (DCE) <a href="http://www.dce.com.cn/portal/cate?cid=1114585896100">http://www.dce.com.cn/portal/cate?cid=1114585896100</a>	Feb. 1993	Dalian is the second largest city of Liaoning province. <a href="http://en.wikipedia.org/wiki/Dalian">http://en.wikipedia.org/wiki/Dalian</a>
Shanghai Futures Exchange (SHFE) <a href="http://www.shfe.com.cn/en/">http://www.shfe.com.cn/en/</a>	Dec. 1999	Shanghai is the largest Chinese city by population. <a href="http://en.wikipedia.org/wiki/Shanghai">http://en.wikipedia.org/wiki/Shanghai</a>
China Financial Futures Exchange (CFFEX) <a href="http://www.cffex.com.cn/en_new/">http://www.cffex.com.cn/en_new/</a>	Founded in Sept. 2006, but started trading in April 2010	Shanghai is the largest Chinese city by population. <a href="http://en.wikipedia.org/wiki/Shanghai">http://en.wikipedia.org/wiki/Shanghai</a>

Zhangjiagang – as compared to the Zhengzhou, Dalian, and Shanghai – is a small county-level city located in the Jiangsu province<sup>6</sup>. Realistically, there was little chance a small market in Zhangjiagang would be approved to set up a new futures exchange. Consistent with the over-ambitious proposal, the likelihood to convert Zhangjiagang to a futures exchange did not exist. In order to disguise his software proposal, the calculation submitted in Yang’s proposal projected trading volume increase based on a futures exchange. Nonetheless, in his proposal, Yang diagramed the electronic trading system he anticipated on designing – which notably omitted mention of futures

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<sup>6</sup> See, <https://en.wikipedia.org/wiki/Zhangjiagang>

transactions – and described the functions the software would support. Gov. Sent. Memo, Ex. 1, pgs. 18-23.

Comparing the growth of the tiny Zhangjiagang spot exchange with the four large and diversified futures exchanges in China is inappropriate – like comparing apples and oranges. The Zhangjiagang exchange trades only liquid chemicals, whereas the four Chinese futures exchanges are much more diversified:

- The China Financial Futures Exchange trades the index of 300 Chinese company stocks traded on the Shenzhen and Shanghai exchanges, and no liquid chemicals;
- The Dalian Exchange trades various commodities, like corn, soy, coke, and various food oils, none of which are liquid chemicals;
- The Zhengzhou Exchange trades in various commodities like rice, cotton, wheat, sugar, and in 2011 (after Yang's proposal) began trading in liquid methanol;
- The Shanghai Futures Exchange trades copper, gold, zinc, rubber and fuel oil.

These exchanges are not comparable to the Zhangjiagang market in size, trading volume, or products traded. Additionally, futures trading is open to the public – anybody can trade stocks – as an investment. On a spot exchange, such as Zhangjiagang, all market participants must be either suppliers or consumers of liquid chemicals, thus creating a much more

limited customer base than a futures exchange. Consequently, Coady's calculation would be unattainable; it creates an inflated projected revenue that is not accurately reflective of the fair market value of the source code.

**d. Yang's Appropriate Loss Calculation**

Yang's loss calculation must be based on gain. As evidence by the foregoing, a reasonable fair market value of the source code cannot be computed based on the government's analysis. Coady's calculations contain assumptions and inaccuracies resulting in an inflated estimate of a 10-year projected revenue. Where fair market value cannot be reasonably determined, a court shall use a defendant's gain that resulted from the offense as an alternative measure of loss. U.S.S.C. § 2B1.1, comment, Note 3(B). Although Yang did not experience any pecuniary gain, as a result of him abandoning his project when he realized he would not be able to live up to his written proposals, he concedes that using his expected gain would produce a more fair representation of the loss calculation for sentencing purposes.

Yang expected payment pursuant to his contract with the Zhangjiagang Exchange. *See* Gov. Sent. Memo, Ex. 8. The anticipated payment to Yang was never more than 4 million RMB – approximately \$618,000 – on the venture with Zhangjiagang. While his contract outlined supplementary payments to be made to Yang and his partners, these payments were contingent upon meeting certain goals, many of which were

unrealistic. Gov. Sent. Memo, Ex. 8, pg. 4. And although Yang and his partners were promised a 20% ownership in the exchange, both the value and time of this consideration remains unknown. *See supra*, pgs. 3-14.

The revenue projections in Yang's proposal were inflated and could not actually be realized. He also knew that the future payments outlined in the proposed contract were not attainable. Using the expected gain of \$618,000 as the total loss calculation will yield a reasonable sentence that is sufficient, but not greater than necessary.

## **II. ADDITIONAL OBJECTIONS TO PSR AND GOVERNMENT'S FACTUAL BACKGROUND**

### **a. 3B1.3 Enhancement is Inapplicable**

The PSR improperly enhances Yang's anticipated offense level for use of a special skill, pursuant to § 3B1.3. The government agrees with Yang's position as evidenced by their failure to argue or incorporate a § 3B1.3 enhancement in their guideline computation. As such, Yang respectfully requests this Court to omit the enhancement from its guideline calculations.

Yang was not a high-level employee at the CME with access to otherwise unobtainable information. Yang was hired by the CME Group as a JAVA computer software programmer despite having no formal computer education. In fact, his daily responsibilities were essentially limited to collecting market data for sale to CME Group customers and occasionally communicating with Chinese-speaking clients.

Yang's crime required no special skill for purposes of this enhancement. A use of special skill enhancement pertains to individuals utilizing skills ordinarily not possessed by members of the general public – ones that requires substantial education, training or licensing. U.S.S.G. § 3B1.3, comment, Note 4. The enhancement applies to those who use their special skill to significantly facilitate the commission or concealment of their crime. *See* U.S.S.G. § 3B1.1, background. Although Yang possesses skills normally not possessed by the general public – Yang holds a PhD in physics and worked as a software engineer at CME – those skills were not used to facilitate the downloading of trade secrets at issue in this case. Any individual possessing basic computer skills, and with access to CME computers, would have been able to cut and paste the code in the same matter as Yang<sup>7</sup>. As such, the enhancement does not apply.

**b. Mischaracterizations of Yang's discussions with other exchanges**

The government incorrectly maintains – and is mirrored in ¶ 17 of the PSR – that Yang engaged in discussion with other Chinese exchanges to provide the same software upgrade as he was to perform for the Zhangjiagang exchange. Gov. Sent. Memo, pg. 8. In support, the government uses email communications between Yang and his business partners. But as this Court will see through the government's exhibits, they either misinterpret or completely ignore the contents of the correspondence.

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<sup>7</sup> Eavey concedes that the CME source code was available on an internal CME website for CME employees to view *and download*. *See* FBI 302, 8/3/2011 pg. 4.



**i. The Dalian Independent Software Vendor Project**

Yang proposed to, essentially, act as a broker, and find the Dalian an Independent Software Vendor (“ISV”), who would in turn, provide them with their own software. In exchange, Yang’s company, Gateway, would receive brokerage fees. Dalian was in discussions with Yang regarding the solicitation of public bids on a “spread trading” project. Gov. Sent. Memo, Ex. 4. The issue arises in the Government misconstruing the words CME “special advantage.” *Id.* This statement – with no mention of source code or the like attached – merely referred to Yang’s request to act as a broker for the software and not a provider of source code. Yang did not contemplate, and there was no mention made, of developing the software for this project. He simply wished to be the broker for the ISV.

The government includes a discussion of the contemplated profits for the ISV software, which Yang would receive for his work as a broker. Gov. Sent. Memo. Ex. 9. Essentially, the ISV would provide the exchange with their own software and Yang’s company would share in some of the profits through brokerage and service fees. *Id.* at pg. 2. However, the government misconstrues this email and assumes that Yang would use CME source code to develop software for the discussed changes. Gov. Sent. Memo, pg. 19. This was not the case.

**ii. The Bohai E-Commerce Trade Center Project**

Similarly, the Bohai E-Commerce Trading Center project never contemplated any type of trading platform software upgrade, as did the Zhangjiagang proposal. In June 2011, China did not have an accurate credit rating system for individuals or businesses. Gov. Sent. Memo. Ex. 6. Bohai sought to pioneer such a credit service platform. *Id.* at pg. 4. The ultimate goal of Bohai was merely to build a credit information database capable of providing credit data and rating of individuals and businesses for the Trading Center and, eventually, to expand throughout China. *Id.* at pg. 4-5. The government's contention that such was a software proposal similar to Zhangjiagang is disingenuous and must be disregarded by this Court.

**c. Impact on the CME**

The CME and Zhangjiagang Exchange have never been, and will never be, in direct competition with one another. The government's contention that Zhangjiagang was "operating in CME's precise industry in a market where CME had been looking for and continues to look for business opportunities," Gov. Sent Memo, pg. 21, is a farfetched attempt to rationalize their grossly overstated intended loss amount. The real barrier to the CME's inability to enter the Chinese trading market is the Chinese government and the many imposed regulations and restrictions on the industry. *See supra*, pg. 10.

The CME would not consider partnering with a small spot market exchange. Zhangjiagang is a tiny market compared to the world-renown

CME and their business partner, PUMA. What's more, Zhangjiagang is spot market electronic exchange, trading only chemicals. To put in perspective, Zhangjiagang is similar to a daily farmer's market: a consumer sees what he wants and buys it. Conversely, the CME is a futures and options exchange with hundreds of products including, *inter alia*, agriculture, energy, equity index, interest rate, FX, metals, real estate, and weather. The CME has multiple world partners with hundreds of products. While Yang admits that he was hoping to raise the trading volume of Zhangjiagang, the increase would not come anywhere near the volume of products and trading types available through the CME. The CME operating in the Chinese market is not beyond the realm of possibility, but it is unlikely they would choose a tiny spot market as a licensing agent or business partner. When comparing Zhangjiagang to other CME global partners, it is clear that the CME forges partnerships with only the largest, most profitable world-class exchanges.

Finally, the government agrees that Yang did not share CME's proprietary information with any third-party. *See* Gov. Ver. pg. 7 (CME code not distributed to "individuals or entities in China or working with entities in China"). The government is in possession of every email, computer file, and storage device Yang owned. Should he have distributed the code, the government would be aware.

**d. Additional errors regarding financial sections of PSR**

The PSR overestimates Yang's total assets and net worth by approximately \$100,000. Although not dispositive, such errors may adversely affect Yang's ability to pay restitution, should such be ordered. Yang has discussed these additional errors with the probation office. His total monthly income, if added correctly, would be reduced by \$188.00, and by extension, his monthly cash flow would be similarly adjusted. Additionally, since crafting the PSR, there have been numerous changes in Yang's wife's employment, which has decreased her income.

### **III. SENTENCING CONSIDERATIONS PURSUANT TO § 3553(a)**

Since *United States v. Booker*, federal sentencing has been governed by 18 U.S.C. § 3553(a), which grants sentencing courts the discretion to weigh a number of factors such as the history and characteristics of the defendant, age, vocation and education, deterrence, and the need to avoid unwarranted sentence disparities among similar defendants. In structuring a sentencing that is sufficient, but not greater than necessary to comply with the purposes of sentencing, this Court "may not presume that the Guidelines range is reasonable" and instead must "make an individualized assessment based on the facts presented". *See Gall v. United States*, 552 U.S. 38 (2007).

Sentencing courts maintain their ability to use significant discretion in fashioning an appropriate sentence in which the punishment fits the offender, as opposed to the crime. *Pepper v. United States*, 131 S.Ct. 1229, 1240 (2011); *United States v. Ramirez-Mendoza*, 683 F.3d 771, 777 (7th Cir.

2012). Because sentencing guideline ranges are not to be presumed reasonable, this Court must consider whether they actual conform to the circumstances of the case. *Nelson v. United States*, 555 U.S. 350 (*per curiam*); *United States v. Dean*, 414 F.3d 725, 730-31 (7th Cir. 2005).

Sentencing Yang to even the low-end of the advisory guideline range would result in a failure to consider any individualized assessment of the defendant, fueled by a formulaic loss calculation that severely overstates his culpability. In fashioning his sentence, Yang respectfully asks this Court to not only consider the lapses of judgment which placed him before this Court, but to take into account his lack of criminal history and the noteworthy role he undertook in his family and community.

**a. Advisory sentencing guidelines**

A sentencing court's inquiry begins by calculating the defendant's advisory Guideline range. *United States v. Schroeder*, 536 F.3d 746, 755 (7th Cir. 2008). Because Yang and the government disagree as to the intended loss amount, the party's advisory guideline ranges differ. Based on a \$618,000 loss amount, Yang calculates his advisory Sentencing Guidelines as follows:

Base Offense Level (§ 2B1.1(a)(2)):	6
Intended Loss of More Than \$400,000 but Less Than \$1,000,000 (§ 2B1.1(b)(1)(H))	+14
<u>Acceptance of Responsibility (§ 3E1.1)</u>	<u>-3</u>
Total	17

With a resulting anticipated offense level of 17 and a Criminal History category of I, Yang's advisory sentencing range is 24 to 30 months imprisonment. As illustrated by the calculations above, the vast majority of the total points (14) making up Yang's total offense level primarily based on an intended loss, as the CME experienced no actual loss in this case. This significantly overstates the seriousness of the offense and Yang's culpability.

Yang respectfully asks this Court to use its discretion, in accordance with § 3553(a) factors, to depart from this advisory guideline range and sentence him to a term of probation, home confinement, or some combination thereof.

**b. Yang's personal history and characteristics**

Yang's conduct that has brought him before this Honorable Court has left those around him dumbfounded. Even to those outside of his family, Yang is an "indispensable friend" who is the kind of person so willing to help others in need, that he is willing to sacrifice his time, efforts, and money even if he himself is facing some kind of difficulty.<sup>8</sup> His "warm heart and caring towards others" goes well beyond his family and close circle of friends.<sup>9</sup> He exhibits a "passion and enthusiasm"<sup>10</sup> in devoting tremendous time and energy to the Chicago Chinese-American community.<sup>11</sup>

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<sup>8</sup> Qing Guan/Xin He letter pgs. 1-2.

<sup>9</sup> Ping Gao letter, pg. 2.

<sup>10</sup> *Id.*

<sup>11</sup> Donggeng Gong letter, pg. 1.

Yang was born in 1963 in Beijing, China to what he describes as a warm and caring environment. After graduating first in his class and earning his Masters of Science at Peking University, Yang spent two years working as an assistant professor before he and his newlywed high school sweetheart moved to America in order to pursue their PhDs at Boston College – leaving behind their family, resources, and connections (Yang received his PhD in physics in 1998).

Yang's tenure at Boston College proved to be life changing. Aside from earning straight A's, receiving a "Teaching Excellence Award", finishing his dissertation, and co-authoring a textbook, Yang and his wife gave birth to their first daughter, May. May is currently a senior at Harvard University with a 3.92 GPA, having received numerous math and science State and Regional awards, achieving perfect scores on the SAT and ACT, and representing the United States Olympiad Physics Team as one of 20 nationwide team members. Although seeing his daughter's success is such a great honor to Yang, he nevertheless values his daughter's character over her impressive academic achievements. In 2008, the Yangs gave birth to their second daughter, Lily. Because she is still so young, Lily is not aware of the dire circumstances surrounding her father. The family's most earnest fear is that Lily will miss out on the sacrifices Yang made to help both his wife and May become the people that they are today.

Yang is much more than just a loving husband and exemplary father.<sup>12</sup> Since coming to America, Yang has distinguished himself and become a pillar in the Chinese-American community by reserving a substantial amount of time to various community and charitable services. The letters submitted on his behalf tell the story of a dedicated family man, teacher, mentor, community leader, and friend.

A common theme seen through the letters is Yang's willingness to assist individuals with even the most mundane tasks, which in hindsight may seem inconsequential but at the time were of immense help to the individual in need. Although the letters provide countless instances of this characteristic, the best illustration may be through his work with the Boston College Student Association. As an individual who understood the difficulty of coming to a new country with a different environment, language, and culture, Yang took it upon himself to go above and beyond the routine orientation provided to Chinese students entering Boston College. For over 10 years, Yang would pick up new students at the airport, provide them with a home-cooked meal and a couch to rest on, help them rent an apartment, take them grocery shopping, and help acclimate them the school, department, and city.<sup>13</sup> To Yang, putting others before himself is not just a good deed, but an honor.

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<sup>12</sup> As evidence by the numerous character letters written on behalf of Yang.

<sup>13</sup> Yi Zhou letter pg. 2, Hui Wang letter pg. 1, Zhenkun Ma letter pg. 1



Yang is seen as a “community-minded individual who regularly puts the needs of other before his own.”<sup>14</sup> His strong sense of “duty and sacrifice”<sup>15</sup> has constantly been exhibited through his continuous leadership in many organizations including the Chinese American Association of Greater Chicago, the Society of Chinese-American Professors and Scientists, and the Association of Chinese-American Scientists and Engineers. His contributions – including hosting meetings and dinners in his own home or tirelessly raising funds for those in need – have left him widely respected, as it is clear that Yang constantly goes above and beyond to help others around him.<sup>16</sup>

Yang’s contributions to the Chinese American community have grabbed the attention of some of Chicago’s prominent political leaders. Representative Danny K. Davis was so moved by Yang’s accomplishments and dedication to service that when he found out Yang’s daughter finished high school and was heading to Harvard, he threw her a small after-graduation party.<sup>17</sup> In 2010, Jesse White presented Yang his award for being named a “Top Ten Chinese-American Individual in the Greater Chicago Land.” Nonetheless, Yang’s “attentiveness [and] natural enthusiasm to serve is not just towards his own association, but rather to the whole community.”<sup>18</sup>

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<sup>14</sup> Jian Wang letter pg. 1.

<sup>15</sup> Xingwu Wang letter, pg. 1.

<sup>16</sup> Gary Wang letter, pg. 1.

<sup>17</sup> Rep. Danny K. Davis letter pg. 1.

<sup>18</sup> Xiqiao Xu letter pg. 2.

Yang's most "unparalleled virtue is his genuine generosity when it comes to helping others and his community."<sup>19</sup> He is a man who is "earnest and eager to please"; he "pours his heart out" and would "give the shirt off his back to help other people."<sup>20</sup> To most, Yang has taken on somewhat of a community caretaker position; whether he is acting as a tour guide for a long-forgotten acquaintance,<sup>21</sup> offering up his home to individuals struggling to find a place to stay,<sup>22</sup> staying up all night to prepare nutritious meals for a friend struggling with pregnancy,<sup>23</sup> fixing pipes, furnaces, and shoveling driveways,<sup>24</sup> or helping seniors grocery shop,<sup>25</sup> Yang is the first to offer up support with no expectation of receiving anything in return.

Additionally, during the pendency of these proceedings, Yang continues to tutor more than twenty high school students and teaches math at the North Shore Chinese Christian Church. Yang not only genuinely cares about his student's character and academic interests, but also shares much of his valuable parenting experience with the adults.<sup>26</sup> And although Yang has not been able to find employment in his desired field, he continues to come to his part-time job at a grocery store ready to work, not only stocking shelves

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<sup>19</sup> Ziqiang Wang letter, pg. 2.

<sup>20</sup> Jin Lu letter, pg. 1.

<sup>21</sup> Yuchuan Gong letter, pg. 1.

<sup>22</sup> Keji Li letter, pg. 1.

<sup>23</sup> Jialin Hu letter, pg. 1.

<sup>24</sup> Rev. Yamin Huang, pg. 1.

<sup>25</sup> Amy Shen letter, pg. 1

<sup>26</sup> Yuehong Jiang letter , pg. 1.

and acting as a handy man, but bringing in elderly customers who have trouble shopping by themselves.<sup>27</sup>

Unfortunately, since being indicted, Yang's physical and mental health has deteriorated. Prior to his arrest, Yang had no mental health issues but has since lost 30 pounds and been prescribed anti-depressant, anti-anxiety, high blood pressure, and sleeping medications. Yang, at the suggestion of his physician, has consulted two Mandarin-speaking psychiatrists in order to seek medication and counseling in order to curb the symptoms he has exhibited. Likewise, this situation has not only brought grief to Yang and his family, but every individual who has felt a positive impact from his selflessness.

Yang clearly regrets his actions in this case. Coping with these situations is never easy, but for someone with his cultural background it is much more difficult. In the Chinese culture, shame is the greatest punishment one can bring upon himself and his family. Nevertheless, Yang continues to demonstrate the "fruit of genuine Christian faith"<sup>28</sup> through his constant hospitality and warm heart that has "touched everyone."<sup>29</sup> Yang has clearly accepted responsibility for his actions and intends on continuing to live his life as the person everyone believed him to be.

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<sup>27</sup> Amy Shen letter, pg. 1.

<sup>28</sup> Reverend Yamin Huang letter, pg. 1

<sup>29</sup> Yingqi Karen Wang letter, pg. 1.

**c. Deterrence and public protection**

Yang has absolutely no criminal history. Notwithstanding this case, this is his first and only contact with the criminal justice system. As acknowledged by the government, the publicity surrounding this case has and will prevent Yang from ever gaining employment in his field again. Not only that, but the publicity has instilled a shameful stigma on a person that has previously exemplified high moral fiber. The emotional tolls these proceedings have taken on Yang and his family are tremendous and cannot be overlooked. In addition to his depression, the financial hardships on his family have had significant impact since he cannot work in his desired fields, forcing his wife to first relocate to Boston, sustain a period of unemployment, and now employed, again, in the Chicagoland area. Once a praised member of the Chinese-American community, Yang has fallen from grace, being embarrassed and ostracized. There is little doubt that Yang's suffering has ensured that he will never commit a crime again.

Yang is currently 51 years old and his chances of recidivism continue to drop with age. *See United States v. Bullion*, 466 F.3d 574, 577 (7th Cir. 2006); U.S. Sentencing Commission, *Measuring Recidivism, The Criminal History Computation of the Federal Sentencing Guidelines*, pgs. 12, 28 (May 2004). This circuit has continuously found that a sentencing court's consideration of age in relation to the possibility of the defendant committing future crimes is merited. *United States v. Carter*, 538 F.3d 784, 796 (7th Cir.

2008) (sentencing court granting a below-guideline sentence based, in part, on defendant's age of sixty four); *see also United States v. Holt*, 486 F.2d 997, 1004 (7th Cir. 2007); *United States v. Powell*, 576 F.3d 482 (7th Cir. 2009).

Yang is a 51-year-old man who has never been incarcerated and has maintained stable employment his entire adult life. Not only does the present offense not involve the use of violence or the possession of weapons, Yang had over 30 years of continuous education and employment prior to his instant conduct. Yang is a good person who is committed to his family, community, and faith. The events at issue in this case are not representative of the type of person he is. Without a doubt, Yang is in the category of those least likely to offend again. Thus, Yang strongly believes this matter calls for a sentence below the advisory guideline range. *See generally, Gall v. United States*, 552 U.S. 38 (2007).

Should this Court decide imprisonment is warranted, Yang respectfully requests a below-guideline sentence that is not greater than necessary to achieve the goals of deterrence. *See United States v. Adelson*, 441 F. Supp. 2d 506, 514 (S.D.N.Y. 2006), *aff'd mem.*, 301 Fed. Appx. 93 (2d Cir. 2008) ("But as to [general deterrence], there is considerable evidence that even relatively short sentences can have a strong deterrent effect on prospective 'white-collar' offenders") (citations omitted); *see also U.S.S.C., Fifteen Years of Guidelines Sentencing* 56 (2004) (Sentencing Guideline were written, in part, to "ensure a short but definite period of confinement for a

larger proportion of these ‘white-collar’ cases, both to ensure proportionate punishment and to achieve deterrence”).

**d. Disparity with similarly situated defendants**

Sentencing courts are instructed to avoid unwarranted sentencing disparities among similarly situated defendants. *See* 18 U.S.C. § 3553(a); *Gall v. United States*, 552 U.S. 38 (2007) (endorsing district court’s use of discretion in applying this provision). Since the enactment of the Economic Espionage Act, 18 U.S.C. §§ 1831-1891, as of September, 2012, fewer than 100 individuals had been sentenced for violates of § 1832. What’s more, many individuals sentenced for violations under § 1832 received a low-end or below-guideline sentence, many of which received probation, home confinement, or a very short prison sentence<sup>30</sup>.

In *United States v. David Yen Lee*, 09 CR 290 (N.D. Ill. 2010) (Gettleman, J), the defendant pled guilty to stealing trade secrets from Valspar. The defendant had accepted a job with a Chinese company and had copied the trade secrets to thumb drives, although he did not tender the trade secrets to the Chinese company. The government claimed the proprietary trade secret was valued at \$20 million. The defendant in turn was sentence to 15 months imprisonment. As in this case, no actual loss occurred.

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<sup>30</sup> Data compiled by Toren, Peter J., *An Analysis of Economic Espionage Act Prosecutions: What Companies Can Learn From It and What The Government Should Be Doing About It!*, 84 PTCJ 884, 09/21/2012, available at: <http://petertoren.com/wp-content/uploads/2012/10/toren-eea2.pdf>, last accessed December 30, 2014.

In *United States v. Zhiqiang Zhang*, 10 CR 827 (N.D. Cal.), the defendant was sentenced to five-years' probation after stealing over 100,000 files from a technology company developing source code for location-based services for mobile phone. After the defendant accessed the company's password protected database and stole the source code, he established personal entities in the United States and China in order to develop and sell similar location-based services.

In *United States v. Laude*, 06 CR 2147 (S.D. Cal.), the defendant, after being hired by Nokia, downloaded almost 450,000 files of source code from his former employer, Qualcomm, which Nokia in-turn used to design and announce a product to directly compete with Qualcomm's. Although the defendant was the main architect of the product, after pleading guilty, he was sentenced to three years probation.

In *United States v. Platts*, 05 CR 430 (C.D. Cal.) the defendant was sentenced to two years probation, with \$170,000 in restitution, after downloading his employer's pricing strategy for the following year and sending the information to a competitor in an email containing the message "hope this competitive information helps."

In *United States v. Malhotra*, 08 CR 423 (N.D. Cal.), defendant was sentenced to five months imprisonment and three years' supervised release after he pled guilty to taking information and strategic pricing plans when he

left IBM and showed the proprietary information to two vice presidents of HP.

Yang's sentence should not be near the advisory guideline range proposed by the Government. Sentences of probation and short terms of imprisonment are the norm for § 1832 cases, and a sentencing guideline of 57 – 71 months, as proposed by the government, is not justified by the facts in this case. Thus, to avoid sentencing disparities, this court should impose a sentence of probation, community service, home confinement, or supervised release. In the alternative, Yang respectfully requests a short sentence, keeping in the mind the possibility of unwarranted disparity.

**e. The guidelines substantially overstate the seriousness of the offense**

Downward departures are warranted in cases where the offense level determined under the Guidelines substantially overstates the seriousness of the offense. *See* U.S.S.G. § 2B1.1, comment, note 19(c). Cases which the loss determination results in a substantially overstated severity present an encouraged basis for departure.” *United States v. Corry*, 206 F.3d 748, 751 (7th Cir. 2000). The Seventh Circuit has interpreted this Note as allowing for “economic reality” departures in situations where a defendant could not obtain a pecuniary gain, where it was highly unlikely that he would recover any money, or where he would recover significantly less money than originally sought. *See United States v. Stockheimer*, 157 F.3d 1082, 1089 (7th Cir. 1998); *citing United States v. Downs*, 123 F.3d 637, 644 (7th Cir.1997)



(“[T]he time to take economic reality into account “is [at] a district court's downward departure decision”); *see also United States v. Coffman*, 94 F.3d 330, 336-37 (7th Cir. 1996) (“The place for mitigation on the basis of a large discrepancy between intended and probable loss is, under the guidelines, in the decision [of] whether to depart downward, rather than in the calculation of the intended loss”).

In *United States v. Roen*, 279 F. Supp. 2d 986, 992 (E.D. Wis. 2003), the court granted a downward departure under U.S.S.G. § 2B1.1 comment. note 15(B) because it concluded that “the discrepancy between the actual loss-\$19,000-and the intended loss-over \$1.2 million-was extreme.” *Id.* (Application Note 15(B) to § 2B1.1 is now Application Note 19(c), cited above). Now, sentencing judges have even more discretion to vary downward. Although *Booker* has rendered the concept of departures obsolete, sentencing courts can still look to the advisory departure guidelines as a way to analogize § 3553(a) factors. *United States v. Miranda*, 505 F.3d 785, 791, 792 (7th Cir. 2007).

Yang did not ultimately use the source code acquired from the CME for his personal advancement. The evidence shows that he failed and abandoned his attempt. His conduct, although serious, resulted in no actual loss, rendering it unreasonable to sentence him on intended, but highly improbable, loss that bears no relations to “economic reality.” There was almost no reasonable possibility that Yang’s scheme could have cause the

intended loss – especially the \$23 million loss suggested by the government. *See Roen*, 279 F. Supp. 2d at 991 (“[t]hose who devise ridiculous schemes (1) do not ordinarily have the same mental state and (2) do not create the same risk of harm as those who devise cunning schemes”). Additionally, the intended loss – whether this court adheres to the government’s or Yang’s calculations – is grossly disproportionate to any actual loss. *Id.*; *see also Stockheimer*, 157 F.3d at 1091 (this evidence provides a “persuasive basis for the district court to consider a downward departure on the basis of the variance between the intended loss and the realistic possibility of such loss”). Because the CME incurred no actual loss, it is entirely reasonable to mitigate Yang’s sentence based on the substantially overstated seriousness of the offense cause by the intended loss calculations.

**IV. A TERM OF PROBATION OR, IN THE ALTERNATIVE, SHORT SENTENCE WILL SERVE THE PURPOSES OF SENTENCING**

Yang’s advisory guideline range is 24-30 months, based on his anticipated total offense level of 17 and a criminal history category of I. However, not all sentences within the guideline range are reasonable. *See United States v. Cunningham*, 429 F.3d 673, 676 (7th Cir. 2005) (“[T]he sentencing judge may not rest on the guidelines alone, but must, if asked by either party, consider whether the guidelines sentence actually conforms, in the circumstances, to the statutory factors . . . He cannot treat all sentences that would fall within the guidelines sentencing range as reasonable per se.”).

Accordingly, it is particularly important that there exists no mandatory minimum sentence of imprisonment for this offense.

According to § 3553(a)(2), an appropriate sentence should “afford adequate deterrence to criminal conduct” and “protect the public from further crimes of the defendant.” It is clear from the letters in support of Yang that he will not engage in unlawful behavior in the future – one of the primary factors, which must be considered, under § 3553(a). The embarrassment from the publicity surrounding the current conviction is enough to further deter Yang from future criminal acts. What’s more, Yang clearly demonstrated an acceptance of responsibility by entering a timely plea of guilty.

A day has not passed since Yang’s indictment where he has not appreciated and felt the effects of his uncharacteristic conduct. Yang’s entire life has been consumed by his wrongdoings, the ripple effects of which have embodied not only his dear family, but the entire Chinese-American community – which has always viewed Yang as an integral member. A jail sentence is not necessary to promote Yang’s respect for the law, as it can clearly be seen that the effects of his conduct will stay with him for the rest of his life.

Additionally, Yang is a first-time offender whose crime, although serious, resulted in no actual loss and was non-violent in nature. *See* 28 U.S.C. § 994(j), *amended (this section unaffected)* by PL 11-273, Oct. 12, 2010,

124 Stat 2858 (probation is an appropriate sentence for “cases in which the defendant is a first offender who has not been convicted of a crime of violence or an otherwise serious offense,” reserving imprisonment for “a person convicted of a crime of violence that result[ed] in serious bodily injury”).

While a sentence must reflect the seriousness of the offense and provide for adequate deterrence, the effect on Yang resulting from his conviction will ensure that the purposes of sentencing, deterrence, and respect for the law will still be fully vindicated if this Honorable Court imposes a sentence of probation. Such a sentence below the advisory range would not deprecate the seriousness of the offense and would provide adequate specific and general deterrence. *See Gall*, 552 U.S. at 54 (“a sentence of imprisonment may work to promote not respect, but derision, of the law if the law is viewed as merely a means to dispense harsh punishment without taking into account the real conduct and circumstances involved in sentencing”); *United States v. Myers*, 353 F. Supp. 2d 1026, 1032 (S.D. Iowa 2005) (court found that a sentence of supervised release “is not an act of leniency, [ ] but is a substantial restriction of freedom; it is not forgiveness, and it is not an endorsement of the offense”) (internal citations omitted). Therefore, a sentence of probation, home confinement, or a combination thereof would be sufficient but not greater than necessary to satisfy the purposes of sentencing. 18 U.S.C. § 3553(a).

## CONCLUSION

For the aforementioned reasons, Yang respectfully requests this Honorable Court to sentence him to a term of probation, home confinement, community service, supervised release or some combination thereof, or craft a sentence of that accurately reflects the seriousness of the offense while recognizing the economic reality of the offense where there was no actual loss to CME and no monetary gain to the defendant.

Respectfully Submitted,

/s/ Edward M. Genson  
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**CERTIFICATE OF SERVICE**

I, Vadim A. Glozman, an attorney for Defendant Chunlai Yang, hereby certify that on this, the 24<sup>th</sup> day of February, 2015, I filed the above-described document on the CM-ECF system of the United States District Court for the Northern District of Illinois, which constitutes service of the same.

Respectfully submitted,

/s/ Vadim A. Glozman

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